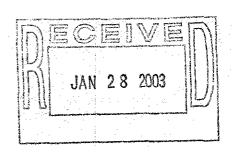
BJC/OR-64 Revision 16

Environmental Management and Enrichment Facilities Operations Work Smart Standards

Revision 16, December 2002





Interoffice Memorandum

To	EMEF - DMC	File No.	PQA-02-113
Subject	Environmental Management and Enrichment	Date	December 23, 2002
	Facilities Operations Work Smart Standards, Revision 16	From	C. E. Daugherty Langt Sygum for
		Of	Performance Quality Assurance
Copies To	EMEF - DMC - RC	At	K-1007, MS7056 Ext 576-8248

The Performance Quality Assurance Manager has approved EMEF Operations Work Smart Standards (WSS), Revision 16, for distribution. Normal access to this document will be through the internal and external BJC web. This transmittal is to provide a record copy to the DMC.

Note that the WSS changes contained in this revision were approved in accordance with the following correspondence:

Type 2 WSS Change - Reference letter number PQA-02-104, October 31, 2002, Paul F. Clay, Bechtel Jacobs Company Vice President and Deputy General Manager, to Gerald G. Boyd, Department of Energy Contracting Officer's Representative – DOE-ORO approval dated November 18, 2002 and provided by COR signature on BJC transmittal letter.

Attachment - EMEF Operations Work Smart Standards, Revision 16

CED:TSF:cnm

Environmental Management and Enrichment Facilities Operations Work Smart Standards

Revision 16, December 2002

Prepared by
Pacific Western Technologies, Ltd.
Oak Ridge, Tennessee
under subcontract 23900-BA-QA003U

Prepared for the U.S. Department of Energy Office of Environmental Management

BECHTEL JACOBS COMPANY LLC
managing the
Environmental Management Activities at the
East Tennessee Technology Park
Oak Ridge Y-12 Plant Oak Ridge National Laboratory
Paducah Gaseous Diffusion Plant Portsmouth Gaseous Diffusion Plant
under contract DE-AC05-980R22700
for the
U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL MANAGEMENT AND ENRICHMENT FACILITIES OPERATIONS WORK SMART STANDARDS

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ENVIRONMENTAL MANAGEMENT AND ENRICHMENT FACILITIES OPERATIONS WORK SMART STANDARDS

Introduction

The purpose of this document is to provide the Environmental Management and Enrichment Facilities (EMEF) Operations Work Smart Standards (WSS) that have been approved through the standards identification processes documented by Bechtel Jacobs Company (BJC) procedure BJC-PQ-1150, Standards Management, and Department of Energy (DOE) directive ORO O 250, Standards Management, Chapter V, Development, Approval, & Maintenance of Work Smart Standards.

Sections 1 through 26 provide the EMEF Operations WSS associated contractual requirements (ACRs) for implementation. Table 1 correlates the hazards that are anticipated to be encountered in the performance of EMEF work with the WSS that provide the necessary and sufficient protection from those hazards. The structure of the table is intended to support the integrated safety management steps of hazard identification and the development of hazard controls. WSS are specified with required standards, Implementation Assumptions (IA), and non-mandatory Implementation Guidance (IG). WSS are applicable across the EMEF work scope, except state and local standards are applicable only to the jurisdiction in which they are issued. Table 1 has two parts: 1) Health and Safety Hazards and 2) Environmental Hazards.

Table 2 provides a list of WSS that are sorted by the source of the standard. This listing supports certain evaluations of the set of standards. Note however, that without correlation to hazards, this listing is insufficient for implementing integrated safety management.

The ACRs and work smart standards identified in Table 1 are to be included in subcontracts. The ACRs can be found in various sections of standard proforma language, such as Exhibit B, Exhibit G, and Technical Specifications. The standards from Table 1 are included in proforma Exhibit G, Appendix G-3.

Each WSS revision is supported by separate documentation that describes the WSS process applied, the justification for adequacy and feasibility of the new and revised standards, and approvals by BJC and DOE.

Associated Contractual Requirements (ACRs)

1. Applicability of the WSS Set

Figure 1 summarizes the current functions for which EMEF is responsible and those that are the responsibility of other organizations that share sites with EMEF. The EMEF Operations WSS are the contractual basis for ES&H protection that are applicable to a large fraction of EMEF responsibilities. The EMEF scopes to which this set of WSS applies and those to which it does not apply are generally shown by Figure 2 and are specifically identified in Sections 1.1 and 1.2.

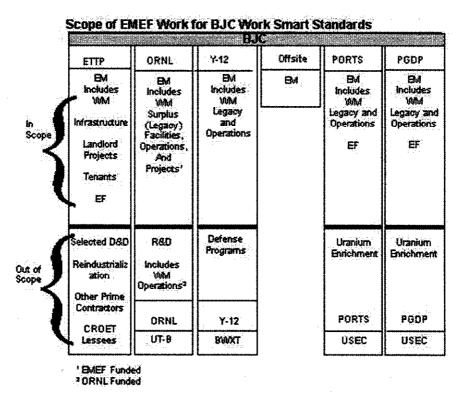


Figure 1: Scope of EMEF Work for BJC Work Smart Standards

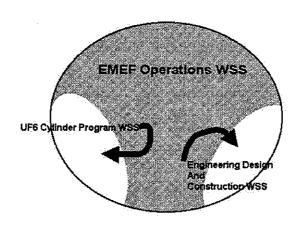


Figure 2: Work Smart Standards

1.1 In-Scope

The following are in-scope for application of this Work Smart Standards set:

- ES&H protection.
- EMEF work activities at ETTP, ORNL, Y-12 Plant, Portsmouth, Paducah, and Offsite at the Oak Ridge Reservation. This includes work performed under subcontract to Bechtel Jacobs Company LLC.
- Bechtel Jacobs Company LLC tenants on EMEF sites that are not EMEF organizations.

1.2 Out of Scope

The following activities are out-of-scope for application of this Work Smart Standards set:

- Activities identified as in scope for the UF₆ Cylinder Program WSS
- Engineering design and construction activities identified as in scope in the Engineering Design and Construction (ED&C) WSS
- Facilities leased through the Community Reuse Organization of East Tennessee (CROET). Note that activities performed within these facilities under subcontract or as in-kind services for Bechtel Jacobs Company LLC are in-scope
- Activities performed under DOE contracts with organizations other than Bechtel Jacobs Company LLC, e.g. D&D of K-33 building.
- "Non-ES&H" topics such as security, finance, and procurement will continue under requirements from DOE directives and Executive Orders
- Occurrence reporting will continue to be per S/RIDs requirements
- Emergency management will continue to be per S/RIDs requirements (except as noted in Associated Contractual Requirement number 17)

2. Implementation Assumptions

Implementation Assumptions are used either to modify the requirements of a standard or to provide an acceptable alternative requirement. Work smart standards and their Implementation Assumptions (IA) are contractual commitments.

3. Implementation Guidance

Implementation Guidance provides an acceptable means for satisfying the associated standard. As such, Implementation Guidance does not reduce the commitment to compliance with the associated standard. Implementation Guidance will be considered during the implementation phase, but compliance with this guidance is not a contractual commitment.

4. Federal of State Regulations

All applicable federal or state regulations are Work Smart Standards, even if inadvertently omitted from this listing.

Federal, state, and local laws and regulations are applicable as BJC prime contract requirements if they meet either of the following criteria:

- a. The subject addressed by the law or regulation is applicable to planned BJC activities, the law or regulation is issued by an agency having enforceable jurisdiction over DOE activities, and the law, regulation, or other agreement does not provide an exemption for DOE activities, OR
- b. The subject addressed by the law or regulation is applicable to planned BJC activities and DOE has entered into an agreement that invokes the application of the law or regulation.

When applicable laws and regulations regarding safety matters are identified, they will be specifically included within the WSS and Standards/Requirements Identification Documents (S/RIDs). A process for helping in the determination of applicability is presented in the following table:

Evaluate federal, state and local laws, regulations, or standards	Answer	Consider for inclusion in prime contract as WSS	Example
Is the subject applicable to work that BJC plans to	No	Do not consider	FAA regulations on air traffic controller training
perform?	Yes	GO TO STEP 2.	
2. Are they enforceable by the	No	GO TO STEP 3.	
issuing agency?	Yes	Consider as "necessary." (Mandatory incorporation in WSS)	EPA regulations
3. Though not enforceable, has DOE formally agreed to comply?	No	Consider as "sufficiency standards." Consider for incorporation in WSS if there is a gap in the necessary set of standards.	TN state fire regulations
compry:	Yes	Consider as "necessary." (Mandatory incorporation in WSS)	OSHA regulations

5. Incorporation by Reference

Certain Work Smart Standards are federal and state regulations that incorporate consensus standards by reference. Such consensus standards are also Work Smart Standards.

6. Other Agreements

The current versions of Federal, State, or DOE Agreements are Work Smart Standards, i.e., site permits, approval letters, compliance agreements, consent decrees, and executive orders, as applicable.

7. Federal, State, Local Laws & Regulations as Sufficiency Standards

For some hazards, federal or state regulations from which DOE is exempt were selected as work smart standards. These "non-applicable" federal regulations were handled like other consensus standards. That is, the Identification Team selected only those portions it deemed to be needed for sufficiency, e.g., 10 CFR 20.1302 for environmental radiological hazards. Therefore, only the cited portions are Work Smart Standards. Also, no regulatory enforcement of statutes from which Federal facilities (DOE) are exempt is implied by the WSS set. The WSS set only provides contractual requirements.

8. Applicable Versions of Consensus Standards

In applying consensus standards, to operation, maintenance, and minor modifications, three cases are relevant.

- a. Consensus standards that are incorporated by reference, e.g. 29 CFR 1910 incorporates ANSI Z41-91, Personal Protection-Protective Footwear by reference. Work may be performed to the referenced version, or any later version of the referenced standard.
- b. Consensus standards that are not incorporated by reference. These are found under the heading "CONSENSUS STANDARDS" in Table 2, e.g. ANSI B30.21, Manually Operated Hoists. Operation and maintenance activities will be performed to the current version. Minor modifications may be performed to the code of record or to any later version of the referenced standard.

c. Consensus standards need not be retroactively applied to work processes or equipment, unless retroactive application is mandated in the standard.

9. Quality Assurance Rule

10 CFR 830 Subpart A is a Work Smart Standard for activities that have the potential to cause radiological harm. DOE Order 414.1A, Change 1, applies as a Work Smart Standard for non-nuclear work.

10. Readiness Reviews

DOE O 425.1B, Startup and Restart of Nuclear Facilities, applies as a Work Smart Standard for the readiness review process.

11. Occupational Medical Program

An occupational medical program will be maintained that meets the elements of DOE O 440.1A, CRD, Paragraph 19.

12. Integrated Safety Management

Explicit in the establishment of this set of Work Smart Standards is the requirement that the Contractor will effectively integrate safety into management, work planning, and work practices at all levels so that missions are accomplished while protecting the worker, the public, and the environment. Accordingly, DOE P 450.2A, Identifying, Implementing, and Complying with Environment, Safety, and Health Requirements, DOE P 450.3, Authorizing Use of the Necessary and Sufficient Process for Standards-Based Environment, Safety, and Health Management, DOE P 450.4, Safety Management System Policy, DOE P 450.5, Line Environment, Safety, and Health Oversight, DOE P 450.6, Secretarial Policy Statement on Environment, Safety, and Health, and DOE-STD-1120-98, Integration of Environment, Safety and Health into Facility Disposition Activities, are established as a Work Smart Standards for developing and using management systems. DOE P 450.4, Safety Management System Policy, is subject to the following Implementation Guidance: The Contractor will use a tailored approach in the establishment of a management system that considers DOE-STD-1073-93, Guide for Operational Configuration Management, as an Implementation Guide.

13. Authorization Agreements

For facilities designated in writing by the Department of Energy, Oak Ridge Operations (DOE-ORO), an Authorization Agreement (AA) will be prepared and submitted to ORO using their written expectations and requirements and maintained as a record document. The proposed AA will require an authorized contractor's signature prior to submittal. Periodic reviews (consistent with the review of Authorization Basis documents) will be conducted to determine if changes are necessary and these reviews will be reported to the Contracting Officer's Representative (COR) in writing. Work in the affected facilities may be performed outside the provisions of the AA only when imminent danger or an environmental emergency is present. If DOE notifies the contractor in writing of needed improvements, the contractor will resubmit the proposed AA within 45 days of receipt.

14. Discipline and Rigor Controls

DOE Order 5480.19, Change 2, Conduct of Operations Requirements for DOE Facilities, applies as a work smart standard for discipline and rigor controls.

15. Training and Qualification

DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities, applies as a work smart standard for training and qualification.

16. Facility Safety

For Nuclear Category 2 and 3 facilities, the requirements of 10 CFR 830 Subpart B will be applied to the documentation and implementation of facility safety, including:

- 1. categorization
- 2. documentation of safety bases,
- 3. unreviewed safety question process,
- 4. documented safety analyses,
- 5. technical safety requirements,
- 6. preliminary documented safety analyses, and
- 7. DOE approval of the safety bases

For radiological facilities, hazards will be identified, categorized, and evaluated. Safety Requirements will be identified consistent with DOE P 450.4. Hazards and hazard controls will be described in documents such as: Health and Safety Plans, Auditable Safety Analyses, Process Hazard Analysis, Risk Management Plan, or Environmental Impact Statement. Safety requirements (controls) will be recorded in the appropriate safety documentation.

For non-nuclear, non-radiological facilities safety analysis, safety requirements, and change control may be satisfied by the following: (1) complying with 29 CFR 1910.120 and 29 CFR 1926.65 requirements for Safety and Health Programs, Work Plans, Health and Safety Plans (HASPs) and Emergency Response Plans; (2) deriving safety requirements (controls); and (3) addressing public safety, as well as worker safety, in the Safety and Health Program, Work Plans, HASPs, and Emergency Response Plans.

For activities subject to an authorization basis, configuration control will be maintained to ensure that activities remain within the approved authorization basis. If outside the authorization basis, the change shall be approved at a level consistent with the original authorization basis approval.

DOE O 420.1A, Facility Safety, applies as a Work Smart Standard for Natural Phenomena Hazards.

17. Emergency Management

DOE O 151.1A, Comprehensive Emergency Management Plan, applies as a Work Smart Standard until such time as the Emergency Management Standards and Requirements Identification Document (S/RID) is updated to include the requirements from this directive.

18. Accident Investigations

DOE O 225.1A, Accident Investigations, applies as a Work Smart Standard for accident investigations.

19. Environment, Safety, and Health Reporting

DOE O 231.1, Change 2, *Environment, Safety, and Health Reporting*, and 29 CFR 1904 apply as a Work Smart Standard for ES&H reporting requirements.

20. Performance Indicators and Analysis of Operations Information

DOE O 210.1, Change 2, Performance Indicators and Analysis of Operations Information, applies as a Work Smart Standard for identification, monitoring, and analysis of data that measures ES&H performance.

21. Suspect / Counterfeit Items

DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, applies as a Work Smart Standard for control of suspect / counterfeit items.

22. Worker Protection

DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, applies as a Work Smart Standard for worker protection programs.

23. Industrial Hygiene

DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, applies as a Work Smart Standard for the establishment and conduct of industrial hygiene programs.

24. Construction Safety

DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, applies as a Work Smart Standard for the establishment and conduct of construction safety programs.

25. Maintenance

DOE O 433.1, Maintenance Management Program for DOE Nuclear Facilities, applies as Work Smart Standards for maintenance activities.

26. System Engineers

A system engineering program will be established, implemented, and maintained meeting the requirements of DOE O 420.1A, Facility Safety, Attachment 2, Section 4.5 System Engineering Program. The Systems Engineering Program will be applied in a graded process to active safety systems as identified in DOE approved documented safety analyses for Nuclear Category 2 and 3 facilities. The systems governed by Section 4.5 are identified in the BJC List of Active Safety Systems (latest approved revision). This controlled list identifies the specific systems as well as any ownership / interface issues associated with the identified systems.

Table 1 - Work Smart Standards (Health and Safety Hazards)

For the following Work Smart Standards to be complete, they must be applied with the Associated Contractual Requirements.

The Introduction provides contractual requirements for implementing this set of WSS. Table 1 correlates the hazards that are anticipated to be encountered in the performance of EMEF Operations work with the Work Smart Standards that provide adequate protection from those hazards. The structure of this table is intended to support the integrated safety management steps of hazard identification and the development of hazard controls. WSS are specified with required standards, Implementation Assumptions (IA), and non-mandatory Implementation Guidance (IG). Implementation Guidance shall be considered in the implementation phase of controlling the identified activity, hazard, or issue. WSS are applicable across EMEF, except state and local standards are applicable only to the jurisdiction state in which they are issued. Table 1 has two parts:

- 1) Health and Safety hazards
- 2) Environmental hazards

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Fire		74/75/7/2/49899 (Sept 469) (Sept
Battery charging station	Activities where battery-charging stations are owned, used, and/or maintained.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 70, National Electric Code NFPA 111, Stored Electrical Energy Emergency and Standby Power Systems NFPA 505, Powered Industrial Trucks including Type Designations, Areas of Use, Maintenance and Operation IG - Standard Fire Prevention Code (SFPC)
Combustion engines	Applies to portable engines (such as power generators) and stationary engines.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 1, Fire Prevention Code NFPA 37 Stationary Combustion Engines and Gas Turbines
Electrical fire hazards	Fire hazards associated with electrical equipment or work.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 70, National Electrical Code (NEC) NFPA 70E, Electrical Safety Requirements for Employee Workplaces

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Fire rescue/response	Applicable to all fire hazards	 29 CFR 1910, Occupational Safety & Health Standards NFPA 299, Protection of Life and Property From Wildfire TCA-68-140, Emergency Services, Part 5 Emergency Medical Services Act of 1983 ORC 47:4731, Physicians, Limited Practitioners IA - Fire prevention or response elements may be modified, reduced, or eliminated when justified by an evaluation that demonstrates an equivalent level of protection or an acceptably low risk to personnel and the environment. Such modification, reduction or elimination of protection shall be approved by the DOE-ORO authority having jurisdiction (AHJ) for fire protection matters. IG - ANSI/ANS-8.22, Nuclear Criticality Safety Based on Limiting and Controlling Moderators
Fire safety	Applicable to all fire hazards	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities Standard Fire Prevention Code (SFPC) for Tennessee (IA - Applicable only to the TSCA Incinerator) NFPA 1, Fire Prevention Code, with the following IAs: Sections 1-3(4), 1-4.2, and 1-8 do not apply The Governing Authority described in section 1-4.1, for the purposes of this requirement, is to be the BJC General Manager. This Governing Authority is to designate a qualified individual to serve as the AHJ for all facilities over which BJC, or its subcontractors, have responsibility. This appointment will be in writing. Section 1-4.10 shall be amended to allow DOE to direct BJC to secure the scene of any accident or fire, and to turn the scene and all evidence over to an investigation team to be designated by DOE. In this code, the term "public" is to mean all BJC employees, all BJC subcontractors, and all other co-located workers and visitors who are present at a facility for which BJC has responsibility.

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
		 In this code, the term "owner" is to mean the BJC facility manager. In this code, the term "operator" is to mean the BJC building operator. Where NFPA 25 and 72 are referenced, the inspection, test, and maintenance frequencies listed in those standards shall not apply, instead, the frequencies listed in the document titled, "Oak Ridge Operations Office Fire Prevention and Protection Implementation Guides" shall be used. For fire hazards not addressed by WSS Fire AHIs, the AHJ will apply the applicable NFPA standard(s). NFPA 801, Facilities Handling Radioactive Materials (IA – Section 4-1.1 – Where a fire hazard analysis is required, a graded approach shall be applied.) DOE O 420.1A, Facility Safety, Section 4.2 DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees IA - Fire prevention or response elements may be modified, reduced, or eliminated when justified by an evaluation that demonstrates an equivalent level of protection or an acceptably low risk to personnel and the environment. Such modification, reduction or elimination of protection shall be approved by the DOE-ORO authority having jurisdiction (AHJ) for fire protection matters.
Flammable materials and compressed gases	Applies to liquids, gases, and solids use, storage, dispensing, and vehicle fueling.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 1, Fire Prevention Code NFPA 55, Compressed and Liquefied Gases in Portable Cylinders
Lightning		NFPA 780, Lightning Protection IA - Applicable only to the TSCA Incinerator
Minor facility modifications or alterations	Minor alterations or modifications are defined as changes in facility configuration not requiring engineering design.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety And Health Regulations For Construction NFPA 1, Fire Prevention Code

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Mobile equipment activities in fire hazard areas	Use of mobile equipment in potentially hazardous fire environments.	 29 CFR 1910, Occupational Safety & Health Standards NFPA 70, National Electric Code NFPA 505, Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance and Operation
Open flame/burn and radiant heat	Includes open flames and burning in open areas (lab equipment, gas stoves, brush, debris, tar kettles etc.), use of radiant heaters, steam heating systems, and portable oil and gas heaters.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety And Health Regulations For Construction NFPA 1, Fire Prevention Code
Positioning of portable/temporary structures, equipment, or materials	Requirements apply as they relate to fire exposure hazards due to the proximity of adjacent combustible structures, equipment, or material.	 NFPA 80A, Exterior Fire Exposures (IA - This standard will be used by qualified fire protection engineers to determine minimum spacing between structures to minimize the risk of exposure to fires for all new installations. The requirements of this standard will not be applied to existing (at time of adoption of these WSS) structures.) IG - DOE-STD-1088, Fire Protection for Relocatable Structures
Spark-producing tools near flammables	Activities in a flammable or explosive atmosphere.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA-1, Fire prevention Code
Spontaneous combustion	Activities where oily rags, cleaning rags, etc. are stored.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA-1, Fire prevention Code
Storage of aerosol cans		29 CFR 1910, Occupational Safety & Health Standards
Storage of combustibles	Identify items like pallets, boxes of material, lubricating oils, etc.	 29 CFR 1910, Occupational Safety & Health Standards NFPA-1, Fire prevention Code
Using portable fire extinguishers		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety And Health Regulations For Construction NFPA 10, Portable Fire Extinguishers

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Welding, torch, cutting, brazing		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 51B, Standard for Fire Protection in use of Cutting and Welding Processes (IA - Fire Watchers are responsible for the safety of the worker(s) performing the hot work and the facility, including the requirement to maintain line-of-sight with the worker(s) during hot work operations.) ANSI Z 49.1, Safety in Welding and Cutting
Electrical		
Batteries	Activities where batteries are used or maintained (e.g. to provide backup power for building systems).	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Exposed to <600 V		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 70, National Electrical Code (NEC) ANSI C2, National Electrical Safety Code (NESC) NFPA 70E, Electrical Safety Requirements for Employee Work Places
Exposed to >600 V	Activities involving work on the power distribution system (either aerial or subterranean) such as line work, phasing, conductor repair, etc.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 70, National Electrical Code (NEC) ANSI C2, National Electrical Safety Code (NESC) NFPA 70E, Electrical Safety Requirements for Employee Work Places IG - ASTM F1236-89, Visual Inspection of Electrical Protective Rubber Products
Temporary lighting		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Stored energy/capacitors or inductors		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Substations/transformers		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 70, National Electrical Code (NEC) ANSI C2, National Electrical Safety Code (NESC) NFPA 70E, Electrical Safety Requirements for Employee Work Places
Electrical magnetic fields	Activities at or near electrically generated magnetic fields (includes fringe fields and quench effects).	ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Static electricity	Activities which involve the transfer/handling of flammable/ignitable liquids (especially petroleum products such as gasoline, kerosene, etc.)	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Non-Ionizing Radiation		
Laser	Laser wands used for presentations are not identified.	 29 CFR 1926, Safety & Health Regulations for Construction ANSI Z 136.1 (1993), Safe Use of Lasers ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Radio frequency and microwave radiation	Activities where RF and MW (315 Hz - 300 KHz) are encountered (Does not include MW cooking).	 29 CFR 1910, Occupational Safety & Health Standards ANSI Z 49.1, Safety in Welding, Cutting, and Allied Processes ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Ultraviolet radiation	Activities where work will be conducted out-of-doors or near ultraviolet sources	 ANSI Z 49.1, Safety in Welding, Cutting, and Allied Processes ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Intense light source	Activities at or near intense light, e.g. welding, torch cutting, hot or molten materials.	ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Ionizing Radiation		
Radiation exposure	Activities that involve radioactive materials or radiation generators, that may result in internal and/or external radiation exposures (sources, medical x-ray equipment).	 10 CFR 830 Subpart A, Nuclear Safety Management, Quality Assurance Requirements (IA - Applicable to activities that have the potential cause radiological harm.) 10 CFR 835, Occupational Radiation Protection ANSI N323-1978, Radiation Protection Instrumentation Test and Calibration DOE P 441.1, Radiological Protection for DOE Activities
Radioactive contamination	Activities that could cause airborne contamination and/or removable surface contamination that could result in internal uptake and/or contamination spread.	 10 CFR 830 Subpart A, Nuclear Safety Management, Quality Assurance Requirements (IA - Applicable to activities that have the potential cause radiological harm.) 10 CFR 835, Occupational Radiation Protection ANSI N323-1978, Radiation Protection Instrumentation Test and Calibration DOE P 441.1, Radiological Protection for DOE Activities
Fissile material	Activities that involve fissile material(s) inspection, storage, configuration change, use or transportation.	 10 CFR 830 Subpart A, Nuclear Safety Management, Quality Assurance Requirements 10 CFR 835, Occupational Radiation Protection (Nuclear Accident Dosimetry) DOE O 420.1A, Facility Safety, Section 4.3, Nuclear Criticality Safety IG - ANSI/ANS-8.22, Nuclear Criticality Safety Based On Limiting and Controlling Moderators IG - ANSI/ANS-10.4, Guidelines for the Verification and Validation of Science and Engineering Computer Programs for the Nuclear Industry IG - DOE-STD-3007, Guidelines for Preparing Criticality Safety Evaluations at Department of Energy Non-Reactor Nuclear Facilities

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Material Handling		
Compressed gas cylinders	Activities involving the handling and storage of cylinders (inert, flammable, toxic).	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Conveyer systems		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Cranes & hoists, hoisting, rigging, and material handling	Activities where the use of gantry, overhead, monorail, and portable cranes will be used. Does not include personnel work platforms.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ANSI B30.2, Over Head and Gantry Cranes ANSI B30.5, Mobile and Locomotive Cranes ANSI B30.10, Hooks ANSI B30.11, Monorails & Underhung Cranes ANSI B30.16, Overhead Hoists ANSI B30.20, Below The Hook Lifting Devices ANSI B30.21, Manually-Operated Hoists ANSI B56.6, Rough Terrain forklift Trucks IG - Technical Standard 1090 - Hoisting and Rigging, Ch. 2 (for Critical Lifts Only) and Addendum 1 (Procurement Guidelines)
Elevators		 ANSI/ASME A 17.1, Safety Code for Elevators and Escalators ANSI/ASME A 17.2.1, Inspectors Manual for Electric Elevators ANSI/ASME A 17.2.2, Inspectors Manual for Hydraulic Elevators ANSI/ASME A 17.3, Existing Elevators and Escalators ASME A 17.5, Elevator and Escalator Electrical Equipment
Forklift operation		29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Hazardous equipment & machinery	e.g., banding machines	29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Storage/handling of toxic materials		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
On-site transportation	Includes DOT non-hazardous materials, hazardous materials, and hazardous waste. Hazardous materials and hazardous waste include radioactive material.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction 40 CFR 260-268, Hazardous Waste Management 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions DOE O 460.1A, Packaging and Transportation Safety
Off-site transportation	Includes DOT non-hazardous materials, hazardous materials, and hazardous waste. Hazardous materials and hazardous waste include radioactive material.	 10CFR 71, Packaging and Transportation of Radioactive Material 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction 40 CFR 260-268, Hazardous Waste Management 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions 49 CFR 100 - 199, U.S. Department of Transportation (DOT) Hazardous Materials Regulations 49 CFR 325 - 399, U.S. Department of Transportation (DOT) Federal Motor Carrier Safety Regulations DOE O 460.1A, Packaging and Transportation Safety DOE O 460.2, Chg. 1, Departmental Materials Transportation and Packaging Management
Biological Factors		
Animals, insects		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Microbes (water)	Activities conducted on stagnant ponds, pools of water, cooling towers, etc.	IA - Work planning will specify the appropriate controls.
Indoor air	Bacteria, fumes, etc.	 ANSI/ASHRAE 62-1989, Ventilation IA - Use of respiratory protection per 29 CFR 1910.134 is an acceptable alternative to ventilation. IG - Building Air Quality - EPA Manual
Mold & mildew, bird droppings		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Poisonous plants	Such as poison ivy, etc.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Bloodborne pathogens	Activities where employees may be occupationally exposed to blood or potentially infectious materials.	 29 CFR 1910, Occupational Safety & Health Standards T.C.A. Section 50-3-203, TN Safe Needles Act IG - 29 CFR 1910.1030
Thermal		
Cryogens	Activities where cooling materials such as liquid nitrogen are used or stored.	• 29 CFR 1910, Occupational Safety & Health Standards
Hot/cold work environment		 29 CFR 1910, Occupational Safety & Health Standards ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs); IG - Occupational Health and Safety Guidance Manual for Hazardous
High temperature	Activities where	Waste Site Activities (NIOSH) for Non-Permeable PPE. • 29 CFR 1910, Occupational Safety & Health Standards
equipment/materials	equipment/materials that generates intense heat is used.	• 29 CFR 1926, Safety & Health Regulations for Construction
Personnel		
Asbestos/man-made mineral fibers		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Asphyxiating gases	Activities that could release sufficient gases which (1) displace oxygen and result in an oxygen-deficient atmosphere, e.g., nitrogen, hydrogen, freon, argon, or carbon dioxide or (2) interfere with bodily use of oxygen, e.g., carbon monoxide.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Confined spaces	Activities conducted within "confined spaces" as identified by OSHA.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Dry environment	Activities conducted in a hot dry environment such as furnace ovens, etc.	ANSI/ASHRAE 62-1989, Ventilation
Elevated work	Activities with potential for falls from elevated surfaces. Heights and configurations specified in OSHA.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Eye damage	Debris-generating activities, e.g., grinding, cutting, cleaning with compressed air.	29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Hazardous materials/waste		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ANSI Z 358.1, Emergency Eyewash and Shower Equipment ANSI/ASHRAE 62-1989, Ventilation ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
High noise levels		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Lifting/carrying heavy objects	Activities where personnel move the heavy objects	29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Pinch points		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Repetitive motion	Ergonomics, cumulative trauma disorders	IA - Work planning will specify the appropriate controls.
Sharp edges	Sheet metal work, equipment loading, etc.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Traffic	Activities involving on-site roadway transportation or activities near traffic areas (i.e., cars, carts, fork lifts, bicycles).	DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees IG - ATSSA Manual On Uniform Traffic Control Devices
Vibrating equipment	Activities where hand held saws, decontamination scabbling, or hammering equipment is used.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Walking/working surfaces	Identify: 1. general surface hazards such as irregular surfaces, floor grating, wet surfaces, scaffolds, or ladders. 2. low overheads and protrusions into walking and work areas, e.g., pipes, wiring, or air conditioners.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Excavation/penetration		29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Demolition	Activities where machinery is used to demolish	29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Food preparation		29 CFR 1910, Occupational Safety & Health Standards

 Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)	
Chemical	Chemical		
Acids, solvents, toxic agents & hazardous liquids	Includes sensitizers.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction IG - U. S. Coast Guard Chris Compatibility Chart) NFPA 45, Standard On Fire Protection for Laboratories Using Chemicals (IA - for Laboratories Only) ANSI Z 358.1, Emergency Eyewash and Shower Equipment ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs) 	
Beryllium		 10 CFR 850, Beryllium Rule 29 CFR 1910, Occupational Safety & Health Standards ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs) 	
Carcinogens		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs) 	
Explosive & blasting agents	Storage and use for activities such as demolition.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction TCA 68-105, Blasting Standards OAC 130-7-7-30, Explosives 805 KAR 4, Division of Explosives and Blasting DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees 	
Chemical detonation activities	From acceptance of shock- sensitive, potentially shock-	IA - The Activity Hazard Assessment (AHA) for handling and transport of shock-sensitive waste will determine the personal protective	

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
	sensitive, or DOT forbidden wastes through post detonation activities.	equipment (PPE) and packaging requirements and will be based on chemical properties. IA - A transportation work package will specify the controls necessary to segregate facilities, vehicle traffic, and personnel from the shocksensitive waste and will be based on overpressure calculations. Transport will only occur when inclement weather is not anticipated. IA - Equipment such as lifting devices, vehicles, etc. Will be inspected daily while in use to prevent mechanical failure. IA - Shock-sensitive waste will be transported in an explosive carrier that is inspected and certified annually according to 49 CFR 396.17-23. IA - A walkthrough will be conducted prior to transport to ensure slip, trip, and fall hazards are controlled. NFPA 495, Chapter 1. NFPA 495, Chapter 2, except Section 2.3 and 2.5, Modified As Follows. (IA - Personnel who perform or supervise use of explosives will meet the qualifications and other requirements of Sections 2-2, 2-4, 2-6, 2-7, and 2-8). NFPA 495, Chapter 6, except Section 6-7, modified as follows. (IA - Reference Section 6-7.2; all magazines containing explosive materials shall be opened and inspected at maximum of 7 days). NFPA 495, Chapter 7, except Sections 7-2 and 7-5.3, modified as follows. (IA - Reference Section 7-1.3.1; loading and firing shall be performed or supervised only by a person possessing the qualifications found in Sections 2-2, 2-4, 2-6, 2-7, and 2-8). NFPA 495, Chapter 8, except Sections 8-1 and 8-2.
Heavy metals	Lead, mercury, etc.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Nuisance dusts	Activities that may generate or be exposed to dusts.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Pesticides, herbicides (FIFRA)		40 CFR 170, Worker Protection Standard
Pesticides, herbicides (non- FIFRA)		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Toxicity in smoke or fumes	Activities which may generate smoke, fumes, etc. not associated with welding, cutting, or hot work, e.g., open burning of brush, exhaust emissions, HF releases.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ANSI/ASHRAE 62-1989, Ventilation ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Welding, cutting, hot work fumes		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ANSI/ASHRAE 62-1989, Ventilation ANSI Z 49.1, Safety in Welding, Cutting, and Allied Processes ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)

 Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Reproductive	Activities that involve occupational exposure to chemical, physical, or biological agents of concern.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ANSI/ASHRAE 62-1989, Ventilation ACGIH, American Conference of Governmental Industrial Hygienists - Threshold Limit Values (IA - Professional judgment of IH will be used to select the appropriate exposure standard, E.G. TLVs, AIHA WEELs and NIOSH RELs)
Mechanical		
Pressure systems	Used to identify systems and equipment containing stored pressure energy, e.g., air, steam, water, hydraulic	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction ASME B&PV Code, Boiler and Pressure Vessel Code ANSI/ASME B31, National Boiler Inspection Code DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees
Machinery and rotating parts	Aspects of pinch, crush, or hydraulic spray from the in-place operation of equipment, e.g., the working components of a brake, shear, lathe, drill press, drilling rigs, backhoes, bulldozers, or jacks.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Material grinding, cutting, drilling		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction IG - IADC Accident Prevention Manual for Drilling
Mobile equipment	Aspects of pinch, crush, or run over personnel from movement of the entire piece of equipment, e.g., drilling rigs, backhoes, or bulldozers.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Moving equipment	Aspects of pinch or crush personnel from movement of the major equipment components, e.g., bridge cranes or monorails.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Moving vehicles, carts, and bicycles	Activitics where employees used vehicles, carts, bicycles inside facilities.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction TCA 55-8-101, Operation of Vehicles - Rules of the Road
Powered platforms		29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Railroad Systems	Inspection and maintenance of railroad systems in Tennessee (excludes rail operations beyond the use of service vehicles for maintenance)	 49 CFR 213, Track Safety Standards 49 CFR 214, Railroad Workplace Safety 49 CFR 216, Special Notice and Emergency Order Procedures: Railroad Track, Locomotive and Equipment 49 CFR 234, Grade Crossing Signal System Safety [Amended] (Implementation Assumption - 49 CFR 234 Applies only to track on DOE property) 49 CFR 236, Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances
Special hand tools	Air wrenches, special saws, powder-actuated nail guns, etc.	29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Stored mechanical energy	Used to identify equipment under tension or temporarily elevated, e.g., compressed spring, blocked door	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Other		
Boating and watercraft		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction Kentucky - Title XIX - Chapter 235 for KY, Boating and Watercraft ORC 15:1547 for OH, Watercraft and Waterways TCA 69-10-201 for TN, Tennessee Boating Safety Act of 1965

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)	
Drowning	Activities over or near water.	 29 CFR 1910 Occupational Safety & Health Standards 29 CFR 1926 Safety and Health Regulations for Construction 	
Safety color coding		 ANSI Z535.1, Safety Color Coding IA - Applicable only to ETTP TSCA Incinerator and Central Neutralization Facility. 	
Aviation	Aircraft flights 1) without passengers, e.g. aerial surveys or 2) with passengers, e.g., charter flights	 14 CFR 77, Objects Affecting Navigable Airspace 14 CFR 91, General Operating and Flight Rules 14 CFR 135, Operating Requirements: Commuter and On-Demand Operations 49 CFR 830, Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records IG - DOE Order 440.2, Aviation 	
Firearms	Firearms use and storage of ammunition (security personnel). Activities which would involve exposure to hunting in Oak Ridge Wildlife Management Arca.	 DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, Attachment 2, Contractor Requirements Document, Paragraph 15, Firearms Safety IG - DOE-STD-1091-96, Firearms Safety 	
General office	Facilities, office equipment, workplace stress, etc.	 29 CFR 1910, Occupational Safety & Health Standards IG - ANSI/IES RP-1, Practice for Office Lighting IG - ANSI/ASHRAE 62-1989, Ventilation 	
Generic – (All work / All areas)			
Housekeeping		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction 	
Egress		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction NFPA 101, Life Safety Code NFPA 101A, Alternative Approaches to Life Safety 	

Table 1 - Work Smart Standards (Health and Safety Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Illumination		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction IG - ANSI/IES RP-1, Practice for Office Lighting IG - ANSI/IES RP-7, Practice for Industrial Lighting
Sanitation		 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Weather-related exposure	Activities where employees could be exposed to high winds, lightning, hail, rain, snow, etc.	 29 CFR 1910, Occupational Safety & Health Standards 29 CFR 1926, Safety & Health Regulations for Construction
Imminent dangers		• Pl. 91-596, Section 5(A)(1), Occupational Safety and Health (OSHA) General Duty Clause

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Air emissions		 401 KAR 50, General Administrative Procedures 401 KAR 51, New Source Requirements; Non-Attainment Areas 401 KAR 53, Ambient Air Quality 401 KAR 57, Hazardous Pollutants 401 KAR 59, New Source Standards 401 KAR 61, Existing Source Standards 401 KAR 63, General Standards of Performance (Air) OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-35, Air Permits to Operate and Variances TN 1200-3, Division of Air Pollution Control
Construction of a new air emission source or modification of an existing one		 40 CFR 60, Standards of Performance for New Stationary Sources 401 KAR 50, General Administrative Procedures 401 KAR 51, New Source Requirements; Non-Attainment Areas 401 KAR 53, Ambient Air Quality 401 KAR 57, Hazardous Pollutants 401 KAR 59, New Source Standards 401 KAR 60, New Source Performance Standards 401 KAR 61, Existing Source Standards 401 KAR 63, General Standards of Performance (Air) OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-31, Permit to Install New Sources of Pollution TN 1200-3-9, Construction and Operating Permits TN 1200-3-6, New Source Performance Standards
Emissions of a hazardous air pollutant	Hazardous air pollutants for NESHAPs are asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, vinyl chloride.	 40 CFR 61, National Emission Standards for Hazardous Air Pollutants 401 KAR 50, General Administrative Procedures 401 KAR 57, Hazardous Pollutants OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-35, Air Permits to Operate and Variances TN 1200-3, Division of Air Pollution Control

 Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Emissions from an industrial source category	Source categories are listed in 57 FR 31576 (July 16, 1992).	 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Source Categories 401 KAR 50, General Administrative Procedures 401 KAR 61, Existing Source Standards 401 KAR 63, General Standards of Performance (Air) OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-35, Air Permits to Operate and Variances TN 1200-3, Division of Air Pollution Control
Storage or use in one process unit of a regulated substance in excess of its threshold quantity	Regulated substances and their threshold quantities are listed in 40 CFR 68.130.	 40 CFR 68, Chemical Accident Prevention Provisions 106 KAR 1, Department of Military Affairs TN 1200-3, Division of Air Pollution Control
A significant increase in emissions from modification of an existing source or construction of a new source	"Significant" increase is defined in 40 CFR 51.166.	 KY - Not found in PAD work scopes OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-31, Permit to Install New Sources of Pollution OAC 3745-35, Air Permits to Operate and Variances TN - Not found in ORR work scopes
Motor vehicle fuel		 40 CFR 80, Regulation of Fuels and Fuel Additives 106 KAR 1, Department of Military Affairs 401 KAR 65, Mobile Source-Related Emissions OAC 3745-15, General Provisions On Air Pollution Control OAC 3745-21, Emissions of Organic Compounds and Carbon Monoxide TN 1200-3, Division of Air Pollution Control
Ozone-depleting substances	and the second term to the second section of the second section second section second section	40 CFR 82, Protection of Stratospheric Ozone
Hazardous substances (CERCLA)	Hazardous substances are designated in 40 CFR 302.4.	40 CFR 302, Designation, Reportable Quantities, and Notification 106 KAR 1, Department of Military Affairs

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Release or threatened release of hazardous substances		 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan 106 KAR 1, Department of Military Affairs OAC 3750-25, Emergency Release Notification TN 1200-1-13, Inactive Hazardous Substance Site Remedial Action Program
Sale or transfer of federal real property	·	 40 CFR 373, Reporting Hazardous Substance Activity When Selling or Transferring Federal Real Property OAC 3745-50-52, Transfer of Permits OAC 3745-50-58, Conditions Applicable to All Permits, Section (L)(3) OAC 3745-54-12, Required Notices, Section (C)
Injury to natural resources resulting from a discharge of hazardous substances		 43 CFR 11, Natural Resource Damage Assessments OAC 3750-25, Emergency Release Notification
Extremely hazardous substances	Extremely hazardous substances are designated in 40 CFR Part 355, Appendix A.	 40 CFR 355, Emergency Planning and Notification 106 KAR 1, Department of Military Affairs OAC 3750-20, Emergency Planning
Toxic chemicals	Toxic chemicals are listed in 40 CFR 372.65.	 40 CFR 372, Toxic Chemical Release Reporting: Community Right-to-Know 106 KAR 1, Department of Military Affairs OAC 3745-100, Toxic Chemical Release Reporting
Hazardous chemicals	Hazardous chemicals are listed in 40 CFR 370.2.	 40 CFR 370, Hazardous Chemical Reporting: Community Right-to-Know 106 KAR 1, Department of Military Affairs OAC 3750-30, Hazardous Chemical Reporting
Use or storage of restricted use pesticides	Insecticides, fungicides, rodenticides, algaecides, herbicides. Restricted use pesticides are listed in 40 CFR 152.175.	 40 CFR 171, Certification of Pesticide Applicators 302 KAR 31, Pesticides TN 0080-6-16, Regulations Governing Use of Restricted Use Pesticides

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Use or storage of non-restricted use pesticides	Insecticides, fungicides, rodenticides, algaecides, herbicides	Work Planning Will Identify The Appropriate Controls
Point source discharges to surface water		 40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System 401 KAR 4, Water Resources 401 KAR 5, Water Quality OAC 3745-1, Water Quality Standards OAC 3745-33, Ohio NPDES Permits OAC 3745-38, National Pollutant Discharge Elimination System Permits TN 1200-4, Division of Water Quality
Non-point source discharges (i.e., stormwater runoff) to surface water		 40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System 40 CFR 232, 404 Program Definitions; Exempt Activities Not Requiring 404 Permits 33 CFR 322, Permits for Structures or Work in or Affecting Navigable Waters of the United States 33 CFR 330, Nationwide Permit Program 401 KAR 4, Water Resources 401 KAR 5, Water Quality OAC 3745-1, Water Quality Standards OAC 3745-33, Ohio NPDES Permits OAC 1501:15-1, Excavation TN 1200-4, Division of Water Quality
Oil		40 CFR 110, Discharge of Oil 40 CFR 112, Oil Pollution Prevention 401 KAR 5, Water Quality OAC 3750-25, Emergency Release Notification

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Hazardous substances (CWA)	Hazardous substances are designated in 40 CFR 116.4.	 40 CFR 116, Designation of Hazardous Substances 40 CFR 117, Determination of Reportable Quantities for Hazardous Substances 401 KAR 5, Water Quality OAC 3750-25, Emergency Release Notification TN 1200-4, Division of Water Quality
Discharges to surface water of toxic pollutants	Toxic pollutants are identified in 40 CFR 129.4.	 40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System 40 CFR 129, Toxic Pollutant Effluent Standards 401 KAR 4, Water Resources 401 KAR 5, Water Quality OAC 3745-1, Water Quality Standards OAC 3745-33, Ohio NPDES Permits OAC 3745-38, National Pollutant Discharge Elimination System Permits TN 1200-4, Division of Water Quality
Discharges to a publicly owned treatment works	-	 KY - Not found in PAD work scopes OH - Not found in PORTS work scopes City of Oak Ridge Ordinance 9-91, Sewer Use
Use or disposal of sewage sludge		 40 CFR 503, Standards for the Use or Disposal of Sewage Sludge 401 KAR 47, Solid Waste Facilities OAC 3745-27, Solid Waste Disposal Regulations TN 1200-4, Division of Water Quality
Work in floodplain or wetlands		 10 CFR 1022, Compliance with Floodplain/Wetlands Environmental Review Requirements 33 CFR 320, General Regulatory Policies 33 CFR 323, Permits for Discharges of Dredged or Fill Material Into Waters of the United States 33 CFR 325, Processing of Department of the Army Permits 33 CFR 330, Nationwide Permit Program 401 KAR 4, Water Resources TN 1200-4, Division of Water Quality

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Discharges of dredged or fill material to surface waters or wetlands		 40 CFR 232, 404 Program Definitions; Exempt Activities Not Requiring 404 Permits 33 CFR 320, General Regulatory Policies 33 CFR 323, Permits for Discharges of Dredged or Fill Material Into Waters of the United States 33 CFR 325, Processing of Department of the Army Permits 33 CFR 330, Nationwide Permit Program OH - Not found in PORTS work scopes TN 1200-4, Division of Water Quality
Structures or work in or affecting navigable waters	Navigable waters are defined in 33 CFR Part 329.	 10 CFR 1022, Compliance with Floodplain/Wetlands Environmental Review Requirements 33 CFR 320, General Regulatory Policies 33 CFR 322, Permits for Structures or Work in or Affecting Navigable Waters of the United States 33 CFR 325, Processing of Department of the Army Permits 33 CFR 330, Nationwide Permit Program 401 KAR 4, Water Resources OH - Not found in PORTS work scopes TN 1200-4, Division of Water Quality
Construction, operation, or maintenance of any structure along or in the Tennessee River or its tributaries		 KY - Not found in PAD work scopes OH - Not found in PORTS work scopes 10 CFR 1022, Compliance with Floodplain/Wetlands Environmental Review Requirements 18 CFR 1304, Approval of Construction in the Tennessee River System and Regulation of Structures TN 1200-4, Division of Water Quality
Injury to natural resources resulting from an oil spill		 15 CFR 990, Natural Resource Damage Assessments 40 CFR 112, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System 401 KAR 4, Water Resources OAC 3750-25, Emergency Release Notification TN 1200-4, Division of Water Quality

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Withdrawal of groundwater for remediation or water supply		401 KAR 4, Water Resources OH - Work planning will identify the appropriate controls TN - Work planning will identify the appropriate controls
Installation or abandonment of a test hole or well	Standards contain requirements for other than water wells	 401 KAR 6:310, Water Well Construction Practices and Standards OAC 3745-9, Water Well Standards TN - Work Planning Will Identify The Appropriate Controls
Waste generation		 40 CFR 260, Hazardous Waste Management System: General 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 262.11, Standards Applicable to Generators of Hazardous Waste 401 KAR 30, General Administrative Procedures 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 32:010 Section 2, Hazardous Waste Determination OAC 3745-50, Hazardous Waste RulesGeneral Provisions OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-52, Generators of Hazardous Wastes TN 1200-1-11, Hazardous Waste Management
Infectious waste		KY - Not found in PAD work scopes OH - Not found in PORTS work scopes TN 1200-1-704, Specific Requirements for Class I, II, III and IV Disposal Facilities, Sections (2)(K)2 and (2)(K)4
Generation or collection of sanitary-type solid waste		 40 CFR 243, Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste 40 CFR 244, Solid Waste Management Guidelines for Beverage Containers OAC 3745-27, Solid Waste Disposal Regulations TN 1200-1-7, Solid Waste Processing and Disposal

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Generation of waste high-quality paper or corrugated containers		 40 CFR 244, Solid Waste Management Guidelines for Beverage Containers 40 CFR 246, Source Separation for Materials Recovery Guidelines OAC 3745-27, Solid Waste Disposal Regulations TN 1200-1-7, Solid Waste Processing and Disposal
Hazardous waste generation		 40 CFR 260, Hazardous Waste Management System: General 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 262, Standards Applicable to Generators of Hazardous Waste 40 CFR 265, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities 40 CFR 268, Land Disposal Restrictions 401 KAR 30, General Administrative Procedures 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 32, Standards Applicable to Generators of Hazardous Waste 401 KAR 35, Interim Status Standards for Owners and Operators of Hazardous Waste Storage, Treatment and Disposal 401 KAR 37, Land Disposal Restrictions 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OAC 3745-50, Hazardous Waste RulesGeneral Provisions OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-59, Hazardous Waste- Land Disposal - Prohibitions and Restrictions OAC 3745-65, Interim Standards - General Provisions
		• TN 1200-1-11, Hazardous Waste Management

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Transportation of hazardous waste		 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 263, Standards Applicable to Transporters of Hazardous Waste 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 33, Standards Applicable to Transporters of Hazardous Waste 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-53, Transporters of Hazardous Wastes TN 1200-1-1104, Permit Requirements and Standards Applicable to Transporters of Hazardous Waste
Existing permitted hazardous waste TSD unit		 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities 40 CFR 268, Land Disposal Restrictions 40 CFR 270, EPA Administered Permit Programs: The Hazardous Waste Permit Program 401 KAR 30, General Administrative Procedures 401 KAR 34, Standards for Owners and Operators of Hazardous Waste Storage, Treatment and Disposal 401 KAR 37, Land Disposal Restrictions 401 KAR 38, Hazardous Waste Permitting Process 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OAC 3745-54, Standards for the Management of Hazardous Wastes OAC 3745-59, Hazardous Waste- Land Disposal - Prohibitions and Restrictions TN 1200-1-11, Hazardous Waste Management

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
New hazardous waste TSD unit		 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities 40 CFR 268, Land Disposal Restrictions 40 CFR 270, EPA Administered Permit Programs: The Hazardous Waste Permit Program 401 KAR 30, General Administrative Procedures 401 KAR 34, Standards for Owners and Operators of Hazardous Waste Storage, Treatment and Disposal 401 KAR 37, Land Disposal Restrictions 401 KAR 38, Hazardous Waste Permitting Process 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OH - Not found in PORTS work scopes TN 1200-1-11, Hazardous Waste Management
Interim status TSD unit		 40 CFR 265, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities 401 KAR 35, Interim Status Standards for Owners and Operators of Hazardous Waste Storage, Treatment and Disposal 401 KAR 37, Land Disposal Restrictions 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OAC 3745-50, Hazardous Waste RulesGeneral Provisions OAC 3745-65, Interim Standards - General Provisions OAC 3745-66, Closure and Post-Closure Requirements; Containers; Tanks TN 1200-1, Division of Solid and Hazardous Waste Management
Solid waste management units		 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Sections 264.90-264.101 401 KAR 34:060, Groundwater Protection, Sections 1 Through 12 OAC 3745-54, Standards for the Management of Hazardous Wastes, Sections 90 Through 101 TN 1200-1-1106, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Section (5)(A)

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Recycle or reuse of materials		 40 CFR 247, Comprehensive Procurement Guideline for Products Containing Recovered Materials 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 262, Standards Applicable to Generators of Hazardous Waste 40 CFR 266, Standards for the Management of Specific Hazardous Wastes and Specific Type of Hazardous Waste Management Facilities 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, Sections 761.1, 761.3, 761.20 and 761.30 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 32, Standards Applicable to Generators of Hazardous Waste 401 KAR 36, Standards for the Management of Specific Hazardous Waste and Specific Types of Materials 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-52, Generators of Hazardous Wastes OAC 3745-58, Recyclable Materials Standards TN 1200-1-1109, Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
Waste batteries, pesticides, or thermostats		 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 262, Standards Applicable to Generators of Hazardous Waste 40 CFR 273, Standards for Universal Waste Management 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 32, Standards Applicable to Generators of Hazardous Waste 401 KAR 43, General Standards for Universal Waste OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-52, Generators of Hazardous Wastes OAC 3745-58, Recyclable Materials Standards TN 1200-1-11, Hazardous Waste Management

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Used oil		 40 CFR 261, Identification and Listing of Hazardous Waste 40 CFR 262, Standards Applicable to Generators of Hazardous Waste 40 CFR 279, Standards for the Management of Used Oil 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions Sections 761.1, 761.3, 761.20 and 761.30 401 KAR 31, Identification and Listing of Hazardous Waste 401 KAR 32, Standards Applicable to Generators of Hazardous Waste 401 KAR 36, Standards for the Management of Specific Hazardous Waste and Specific Types of Materials OAC 3745-51, Hazardous Wastes Subject to Regulations OAC 3745-52, Generators of Hazardous Wastes OAC 3745-58, Recyclable Materials Standards TN 1200-1-11, Hazardous Waste Management
Solid waste disposal		 40 CFR 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices 40 CFR 258, Criteria for Municipal Solid Waste Landfills 401 KAR 30, General Administrative Procedures 401 KAR 40, Enforcement and Compliance Monitoring Hazardous Waste 401 KAR 45, Special Waste 401 KAR 47, Solid Waste Facilities 401 KAR 48, Standards for Solid Waste Facilities OAC 3745-27, Solid Waste Disposal Regulations OAC 3745-29, Solid Waste Management Districts: Plastic Bottle and Container Labeling OAC 3745-400, Construction and Demolition Debris Removal TN 1200-1-7, Solid Waste Processing and Disposal

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Petroleum underground storage tank(s)		 40 CFR 280, Technical Standards and Corrective Action Requirements 401 KAR 42, Underground Storage Tanks OAC 1301:7-9, Petroleum Underground Storage Tanks TN 1200-1-15, Underground Storage Tank Program
Hazardous substance underground storage tank(s)		 40 CFR 280, Technical Standards and Corrective Action Requirements KY - Not found in PAD work scopes OAC 1301:7-9, Petroleum Underground Storage Tanks
Polychlorinated biphenyls		 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions 401 KAR 47, Solid Waste Facilities OAC 3745-27 and OAC 3745-51-08 TN 1200-1-7, Solid Waste Processing and Disposal 106 KAR 1, Department of Military Affairs 40 CFR 116, Designation of Hazardous Substances 40 CFR 117, Determination of Reportable Quantities for Hazardous Substances 401 KAR 5, Water Quality OAC 3745-25, Emergency Episode Standards TN 1200-4, Division of Water Quality 40 CFR 302, Designation, Reportable Quantities, and Notification
Test rule chemicals	Test rule chemicals are listed in 40 CFR Part 790	 40 CFR 790, Procedures Governing Testing Consent Agreements and Test Rules KY - Not found in PAD work scopes OH - Not found in PORTS work scopes
Export or import of chemical substances		 40 CFR 707, Chemical Imports and Exports 106 KAR 1, Department of Military Affairs OH - Not found in PORTS work scopes

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Potable water treatment or supply system		 40 CFR 141, National Primary Drinking Water Regulations 40 CFR 142, National Primary Drinking Water Regulations Implementation 40 CFR 143, National Secondary Drinking Water Regulations 401 KAR 8, Potable Water System OH - Not found in PORTS work scopes TN 1200-5, Division of Water Supply
Injection of material into the subsurface	"Material" includes dye for tests.	 40 CFR 144, Underground Injection Control Program 40 CFR 146, Underground Injection Control Program: Criteria and Standards OAC 3745-34, Underground Injection Control Program TN 1200-4-6, Underground Injection Control
Injection of hazardous waste into the subsurface		 KY - Not found in PAD work scopes OH - Not found in PORTS work scopes TN - Not found in ORR work scopes

Table 1 - Work Smart Standards (Environmental Hazards)

Activity/Hazard/Issue	Supplemental Criteria	KY (Paducah), OH (Portsmouth), TN (Oak Ridge Reservation)
Asbestos		 40 CFR 61, National Emission Standards for Hazardous Air Pollutants 40 CFR 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices 40 CFR 258, Criteria for Municipal Solid Waste Landfills 40 CFR 763, Asbestos 401 KAR 45, Special Waste 401 KAR 57, Hazardous Pollutants 401 KAR 63, General Standards of Performance (Air) OAC 3701-34, Asbestos Hazard Abatement Contractors, Specialists, Other Professionals OAC 3745-20, Asbestos HandlingDemolition, Renovation, Disposal OAC 3745-27, Solid Waste Disposal Regulations OAC 3745-35, Air Permits to Operate and Variances OAC 3745-78-03, Asbestos Notification, Removal and Cleanup Fee OAC 3745-400, Construction and Demolition Debris Removal TN 1200-1-7, Solid Waste Processing and Disposal TN 1200-3, Division of Air Pollution Control
Species of wildlife and plants that are federally listed as endangered, threatened, or of concern	Endangered and threatened wildlife and plants are listed in 50 CFR 17.11 and 17.12.	 50 CFR 17, Endangered and Threatened Wildlife and Plants 50 CFR 222, Endangered Fish or Wildlife
±	TN species are listed in TWRA Proclamations 94-16 and 94-17; lists of KY species are compiled by the KY Nature Preserve Commission and published annually in Transactions of the Kentucky Academy of Science; OH species are listed in OAC 1501:31-23.	 301 KAR 4, Wildlife OAC 1501:31-23, Endangered Wild Animals TWRA Proclamations 94-16, Wildlife in Need of Management TWRA Proclamations 94-17, Endangered or Threatened Species